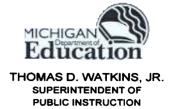


STATE OF MICHIGAN DEPARTMENT OF EDUCATION LANSING



January 6, 2005

MEMORANDUM

TO:

State Board of Education

FROM:

Thomas D. Watkins, Jr., Chairman

SUBJECT:

Report on Recommendations of the Lt. Governor's Commission on

Higher Education and Economic Growth

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In June 2004, Governor Granholm announced the formation of the Lt. Governor's Commission on Higher Education and Economic Growth. The Executive Order creating the Commission also charged the group with identifying strategies to double the number of Michigan residents with degrees and other postsecondary credentials of value within ten years. In December, the Final Report of the Commission was released (attached).

Lieutenant Governor John D. Cherry, Jr., has been invited and has agreed to attend the January 11, 2005, State Board of Education meeting to make a presentation on the recommendations and to respond to questions from the Board.

STATE BOARD OF EDUCATION

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Final Report of THE LT. GOVERNOR'S COMMISSION ON HIGHER EDUCATION & ECONOMIC GROWTH

December 2004 -

Prepared for Governor Jennifer M. Granholm

ACKNOWLEDGEMENTS

The commission thanks its benefactors, DaimlerChrysler, Ford Motor Company, General Motors, and Manulife, whose generous financial contributions allowed the commission to accomplish its task. The Council of Michigan Foundations was also instrumental in providing financial assistance to the commission.

The commission also acknowledges the time and effort of those people who served on the work groups. Their participation informed the commission in critical areas and contributed a breadth and depth of expertise without which this report could not meet the governor's charge.

A number of institutions deserve acknowledgement and thanks for contributing key resources that facilitated the commission's work. Public hearings were the most vital component of its fact-finding efforts, and several institutions—Grand Rapids Community College, Lansing Community College, Northern Michigan University, Northwestern Michigan College, Saginaw Valley State University, and Wayne State University—generously provided facilities and other enabling resources. The Delta-Schoolcraft Intermediate School District, the Ingham Intermediate School District, Lawrence Technological University, Michigan State University, Northern Michigan University, and the University of Michigan all opened their real and virtual facilities to the commission and work groups for meetings.

Finally, the commission is grateful for the tireless work of John Austin, who served as policy director for the commission. Senior policy adviser John Burkhardt, PhD, director of the University of Michigan Center for the Study of Higher and Post-Secondary Education (CSHPSE), worked with a team of researchers to support the commission's work: Britany Affolter-Caine, Nathan Daun-Barnett, Mark Garrett, Laurel Park, and Tom Perorazio from the University of Michigan's CSHPSE; and William Edwards from Michigan State University's Education Policy Center. Senior policy advisor Jim Jacobs, PhD, of the Community College Research Center at Columbia University, also contributed to the effort. In combination with staff support from Public Sector Consultants, the research team expertly captured both the intent and the spirit of the commission's findings and facilitated the delivery of this report to the governor within the time allotted.

FOREWORD

In June 2004 Gov. Jennifer M. Granholm signed Executive Order No. 2004-32 (Appendix A) and announced the formation of the Lieutenant Governor's Commission on Higher Education and Economic Growth, chaired by Lt. Governor John D. Cherry Jr. The executive order charged the commission with identifying strategies to double the number of Michigan residents with degrees and other postsecondary credentials of value within ten years. The deadline given to the commission for its final report was December 31, 2004.

Thirty voting members were appointed to the commission; nonvoting members included the directors of the Departments of Labor and Economic Growth, Education, and Information Technology; the state budget director; the state treasurer; the president of the State Board of Education; two state senators; and two state representatives. (A list of the commission members is provided in Appendix B.) The commission met four times over a six-month period to consider the issues and discuss recommendations consistent with the charges in the executive order. Four subgroups of the commission, supplemented by additional experts and stakeholders, engaged in additional meetings, e-mail exchanges, and telephone conferences between full commission meetings. The four work groups were in the areas of:

- Improving Preparation—encompassing curriculum, standards, assessment, instructional modes, and advanced placement and dual enrollment opportunities for high school students
- Expanding Participation—focusing on instilling higher levels of educational aspiration in Michigan residents, removing financial and cultural barriers, and increasing higher education capacity and distance learning opportunities
- Increasing Degree Completion—focusing on barriers preventing students from completing degrees, better accommodating students' varying paces of attainment, easing student transfers, and expanding articulation agreements on credits among higher education institutions
- Maximizing Economic Benefits—focusing on aligning degree-granting programs to emerging business needs, workplace-specific and on-site education, commercialization of university research, and entrepreneurial partnerships between public education and private business

Each work group met independently six or seven times over the course of the commission's work.

The commission spent most of its first three months collecting and analyzing information about higher education issues in Michigan and how Michigan trends and governmental policies compare to those of other states. The commission used a variety of means to accumulate background information needed to understand which higher education issues were most important to developing Michigan's workforce. The following approaches

were used to build a common knowledge base as a foundation for the commission's final recommendations to the governor and the legislature:

- Solicitation of public comment through a series of six public meetings held throughout the state, online comments through the Cherry Commission website (www.cherrycommission.org), and the submission of written comments. (A summary of comment from the public meetings can be found in Appendix C.)
- Presentations to the full commission and to commission work groups by leading national and Michigan experts on specific higher education topics identified as critical.
- Research briefs and special reports on various higher education issues prepared by commission staff, universities, research organizations, and state agencies.

Where practical, the full text of background materials was also made available to the public on the commission website.

Recommendations emerged from work group deliberations and evolved in an iterative process, with each work group discussing and refining recommendations and issuing individual reports to the commission (provided in Appendix D). Commissioners and work group members provided approval on the overall direction of each work group's recommendations before the November commission meeting. This final report is a compilation and synthesis of all of the work groups' recommendations and reflects the consensus of the commission.

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INTRODUCTION

If we want a high-performance economy, we must work now to improve the strength, depth, and adaptability of our colleges and universities. The mission of this commission could not be more critical to our state.

Gov. Jennifer M. Granholm, March 15, 2004

With those words, Gov. Jennifer M. Granholm established the Commission on Higher Education and Economic Growth under the leadership of Lt. Gov. John D. Cherry Jr. She also gave the commission a daunting charge—within the next ten years find ways to double the number of Michigan residents who obtain college degrees and other valuable credentials. As she had said in her 2004 State of the State address just weeks earlier, Michigan's economic position has changed, and the state will have to travel new roads to reach a brighter economic future. Now she was asking the "Cherry Commission," as it would be known, to blaze a trail that would dramatically change the nature of Michigan's workforce.

Michigan began the twentieth century as a hotbed of innovation and entrepreneurship that led to the state's domination of the industrial economy. Michigan created the automobile industry and became a world leader in furniture manufacturing, pharmaceuticals, chemicals, and other industries. The state's manufacturing base created a thriving Michigan economy, one in which workers with little formal education in the traditional sense were able enter the middle class and earn a decent living. It also attracted people from across the nation and around the world to live and work here, to make these splendid peninsulas home.

Today, the foundations of Michigan's economy have changed, in response to a worldwide knowledge revolution. To thrive economically, Michigan must now adapt and innovate to contend with global—not just national—competitors. To do that, Michigan must ensure that its residents are the best educated in the world and prepared for a lifetime of learning.

Facing this economic imperative, the governor asked the Cherry Commission to develop a set of powerful ideas that would transform Michigan's education system and help the state make the transition into today's economy by instilling in all residents the aspiration for education beyond high school, developing their ability to achieve postsecondary success, and providing them with access to a wide variety of learning institutions.

Michigan public and private education institutions—from colleges and universities to community colleges to technical apprenticeship and certification training programs—offer Michigan residents the opportunity to achieve postsecondary success in numerous forms. Many Michigan residents will complete baccalaureate degrees—or better yet, postbaccalaureate degrees. Others will complete associate's degrees or certificate programs in fields vital to Michigan's economic future such as health care, advanced manufacturing, and information technology. Still more will complete apprenticeship

and technical training programs after high school. Some will become entrepreneurs informed and motivated by an education that supports this ability.

To grow in the decades ahead, Michigan needs an unprecedented number of residents who have reached these milestones along the higher education continuum. At the same time opportunities for those who end their education at high school will continue to diminish. Those who say that all Michigan residents do not need a four-year college degree are right. But anyone who believes that Michigan residents can look forward to a good life with only a high school diploma could not be more wrong.

The governor and lieutenant governor challenged the bipartisan commission to make policy recommendations that would meet three goals:

- 1. Double the percentage of residents who attain postsecondary degrees or other credentials that link them to success in Michigan's new economy
- 2. Improve the alignment of Michigan's institutions of higher education with emerging employment opportunities in the state's economy
- 3. Build a dynamic workforce of employees who have the talents and skills needed for success in the twenty-first century

Under Lt. Governor Cherry's leadership, the 41-member commission took its responsibility seriously, conducting wide-ranging research and intense deliberations. The commission heard testimony from scores of leaders and residents from all walks of life, and gathered input from hundreds more by mail, online, and in person. The report that follows reflects not only the insights gained from that work but also the commission's strong sense of urgency about the need for change to give Michigan the economic future it wants and deserves.

THE CHOICE

Michigan is at a moment of decision. Having established the standard of economic success in the industrial economy of the twentieth century, Michigan is today precariously balanced between that era and the changing economy of a new century. Michigan's residents, businesses, and governments can either move **forward** to a future of prosperity and growth fueled by the knowledge and skills of the nation's best-educated population or they can drift **backward** to a future characterized by ever-diminishing economic opportunity, decaying cities, and population flight—a stagnant backwater in a dynamic world economy.

This report of the Lt. Governor's Commission on Higher Education and Economic Growth reflects the imperative of fundamental change in Michigan's economy and the role education plays in this transformation. Michigan's willingness to work hard and its ability to innovate are characteristics that gave state residents a high standard of living in the last century. That legacy—the quality of life we enjoy today—is imperiled by a changing economy in which knowledge is the key to economic growth and opportunity. Michigan can meet this challenge only if it has the courage to set and achieve within the next ten years a new expectation for learning: postsecondary education for all.

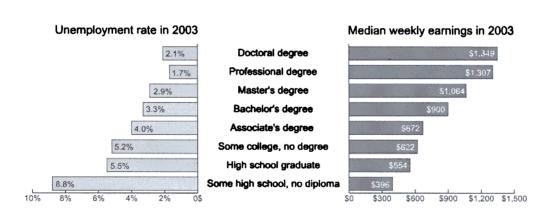
WHY HIGHER EDUCATION MATTERS

Education has long been recognized for the many ways it enriches individuals and communities. In today's economy, a highly educated population has a second and immediate benefit: when work can be located anywhere in the global village, economic growth and jobs will be created in those regions that have this key ingredient.

For most of the last century, Michigan's residents enjoyed a higher standard of living than almost any people in the world. The work involved in mass-producing cars and other products provided decent wages to workers who had relatively little formal education. Today that world is gone. In its place is an economy that demands significant educational achievement in all but the lowest paying sectors. Even production jobs in Michigan's world-leading manufacturers today demand workers with advanced education and skills.

As in the country as a whole, education levels determine Michigan residents' income levels and either limit or expand their opportunities for future economic gains (see Exhibit 1).

U.S. Unemployment Rates and Earnings by Educational Attainment Level, 2003



SOURCE: U.S. Bureau of Labor Statistics.

NOTE: Unemployment and earnings for workers aged 25 and older, by educational attainment; earnings for full-time wage and salary workers.

Each year of college attainment enables an individual to increase annual earnings by an average of 10 percent. Furthermore, the gap in earnings between persons with a high school diploma or less compared to those with an associate's, bachelor's, or advanced degree has been widening since 1975. This gap in earnings has grown, even as the supply of college-educated workers has risen.

There is also a strong correlation between the education level of a state's workforce and

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its economic vitality. States that educate and nurture creative talent—and that build and maintain the necessary K-12 and postsecondary education systems—keep and attract people and investment and can capitalize on the multiplier effects that create new companies and jobs. Recent research shows that a 5 percent increase in the share of college-educated adults would boost overall economic growth by 2.5 percent over ten years, and the real wages of all Michigan residents by 5.5 percent.

As shown in Exhibit 2, over the past 30 years per capita income growth in Michigan has decreased by 12 percent relative to the U.S. average, putting it well behind the best-educated states (that is, those states with the highest shares of knowledge industries and highly educated people).

EXHIBIT 2Per Capita Income in Selected States, 2001, Ranked by Percentage Change Relative to U.S. Average, 1969–2001

State	2001 per capita personal income	Rank	1969–2001 income change relative to U.S. average	Rank	Share of population 25–34 with bachelor's or higher degree in 2000
U.S. Average	\$30,527		n/a		27.5%
District of Columbia	\$45,284	1	31.24%	1	50.6%
Massachusetts	\$38,945	488.03	18.06%	2	41.4%
Colorado	\$34,003	7	15.51%	3	34.8%
Connecticut	\$42,550	2	13.37%	4	35.3%
Virginia	\$ 32,328	12	13.25%	5	33.1%
New Hampshire	\$33,771	8	13.23%	6	33.3%
New Jersey	\$39,077	3	10.39%	10	34.7%
Minnesota	\$32,722	11	8.99%	14	34.5%
Maryland	\$35,355	6	6.43%	20	34.2%
Michigan	\$29,499	20	-11.78%	47	26.0%

SOURCE: U.S. Bureau of Economic Analysis.

NOTE: These states were selected because they all experienced above-average income in 2001 and above-average income growth over the previous 15 years.

Further data indicate that the disparity illustrated above is accelerating as people gravitate toward states and metropolitan areas that have already established themselves as talent centers in the world economy.

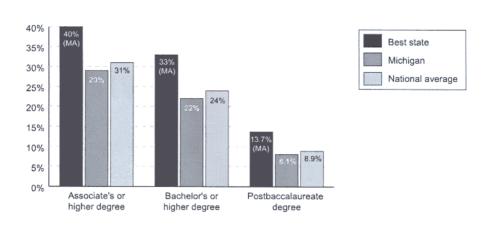
The fact that postsecondary education leads to greater economic growth is undeniable, and the reasons are equally clear. Postsecondary education

- fosters discovery of new ideas that create new goods, services, and whole industries;
- **prepares people** in the disciplines and with the skills demanded by today's economy;
- builds dynamic, attractive communities where creativity and culture create the quality of place that is today so critical at attracting economic development and jobs; and
- **creates greater prosperity** for the college educated and non-college educated alike by making a state's economy more productive and dynamic.

WHERE MICHIGAN STANDS

The decades when manufacturing workers with little formal education enjoyed high wages may have created a high standard of living in Michigan, but they also produced a dangerous side effect: an education achievement gap between Michigan and its competitors. Exhibit 3 illustrates the problem. While in leading states 40 percent of adults have an associate's or higher degree and 33 percent of adults have a baccalaureate or higher degree, the comparable figures in Michigan are 29 and 22 percent, respectively. Michigan's share of adults with a master's or higher degree is 8 percent, compared to 14 percent in the leading states.

EXHIBIT 3
Percentage of Adults Aged 25 and Older with Degrees, 2000



SOURCE: U.S. Census Bureau.

The troubling reality in Michigan is that nearly all (90 percent) of the state's 9th graders say they want to go on to college, but only 41 percent enroll directly out of high school and, ultimately, only 18 percent graduate with a bachelor's degree.

Many factors affect Michigan's poor performance in the attainment of postsecondary degrees.

Too few students successfully finish high school prepared for success:

An unacceptable number of young adults in Michigan drop out of high school, leaving them woefully unprepared to navigate today's economy, let alone the economy of tomorrow. While the state lacks reliable data on the extent of its dropout problem, credible national studies suggest that only 65 to 73 percent of 9th graders graduate from high school in four years.

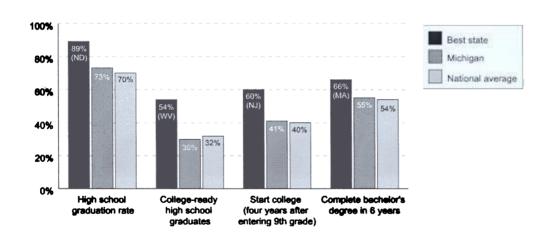
■ Only 30 percent of students who graduate from high school take a course of study rigorous enough to prepare them for postsecondary education.

Too few of our young people and adults are participating in postsecondary education compared with leading states:

- Thirty-seven percent of 18–24-year-olds are enrolled in institutions of higher education, well behind leading states that enroll up to 48 percent.
- The share of Michigan adults over the age of 25 participating in postsecondary education has declined in the past decade from 5.4 percent to 4.1 percent, putting Michigan even farther behind the leading states where up to 6.5 percent of all adults aged 25 and older are enrolled in some form of postsecondary learning.

A final issue is poor completion rates for those who are seeking a bachelor's degree (see Exhibit 4). Just over half of Michigan's residents who seek a bachelor's degree will complete it within six years—a rate significantly lower than that of the leading states. And a large share (25 percent) of Michigan residents over the age of 25 have some college experience but no degree or credential.

EXHIBIT 4Education Preparation and Completion Rates, 2000



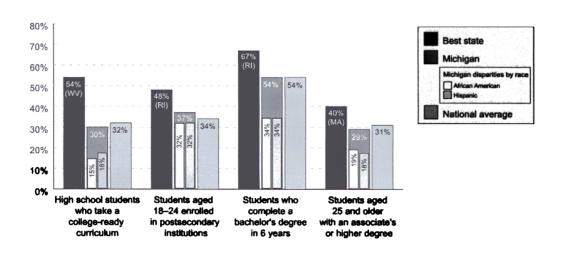
SOURCES: Greene and Forster, 2003; National Center for Public Policy in Higher Education, 2004; National Information Center for Higher Education Policy Making and Analysis, 2002.

NOTE: "College-ready" means possessing the minimal requirements necessary to apply to a four-year college or university (Greene and Forster).

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All these numbers are significantly worse for Michigan's African American and Hispanic residents (Exhibit 5), and those who live in a rural or less developed area (Exhibit 6).

EXHIBIT 5Educational Attainment, with Michigan Disparities by Race



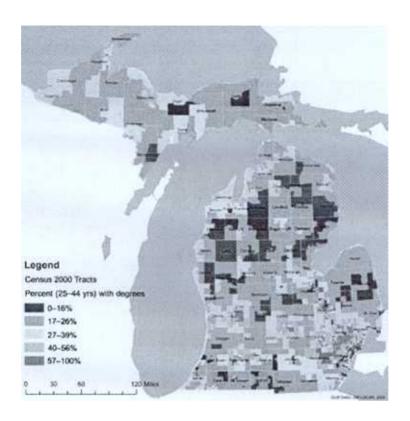
SOURCES: Greene and Forster, 2003; Education Commission of the States, 2003; National Information Center for Higher Education Policy Making and Analysis, 2002; U.S. Census Bureau, 2000.

As Exhibit 6 graphically illustrates, much of rural Michigan—and some urban pockets—are marked with low higher education achievement levels.

While too few young people in Michigan earn college degrees, the problem is exacerbated by the fact that Michigan is losing many of its best and brightest to states where dynamic cities are known as great places to live and work. Net out-migration of Michigan residents stands at 11.2 percent overall, and is acute among educated 22–29-year-olds.

- Michigan lost 11,665 residents in this age group with bachelor's degrees, while the leading state (California) gained 140,588; the average net migration for all states was a gain of 6,929.
- Michigan also does very poorly (45th in the country) in attracting young, educated people to the state.

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SOURCE: U.S. Census Bureau; University of Michigan Center for Statistical Consultation and Research.

WHAT MICHIGAN MUST DO

While Michigan clearly has some distance to travel to join the top rank of states with highly educated residents and growing incomes, Michigan has some very strong assets that will help it compete in this economy. Even with its relative decline, the state is still a major economic power. Michigan has remained both the decision-making center and the research and design/engineering center for automobiles and related advanced manufacturing industries. Michigan ranks very high in the share of high-tech jobs compared to the rest of the nation; the high-technology share of employment in Michigan exceeds the national norm for similar employment by 72 percent. Michigan has a huge share of global research and development spending and highly skilled R&D workers in the automobile and pharmaceutical industries and life sciences and related sectors, making Michigan first in industry-supported research and development as a share of gross state product.

Much of Michigan's comparative advantage today is linked to its powerful statewide network of public and private universities, colleges, community colleges, and training institutions. Led by three nationally ranked research universities, these 182 institutions collectively support research and development on the cutting edge of new ideas and technologies, and serve as the ladder to expanded economic opportunity for Michigan's residents. These institutions make Michigan

- fourth in the nation for total research and development expenditures as a percentage of gross state product,
- seventh in the percentage of science and engineering degrees granted each year, and
- in ninth in the number of patents issued.

Michigan's public and private higher education institutions are strategically located across the state and collectively awarded over 140,000 degrees and certificates last year, giving Michigan a strong foundation from which to improve these figures.

While the commission has been candid about Michigan's problems, it is united in the belief that bold and courageous action will allow Michigan to achieve greatness in the decades ahead that will match and surpass its past achievements. Michigan's challenge is now to turn these assets into greater economic growth and opportunity for its residents. It is in that spirit that the commission offers the following recommendations.

RAISE THE BAR

Today, Michigan can make no more important statement about the critical nature of postsecondary education than to guarantee that all students can complete meaningful postsecondary education after they finish high school. Just as the high school diploma came to define expectations of minimum educational attainment in the twentieth century, postsecondary education must be the new minimum standard for the twenty-first century, and its achievement is a shared responsibility of the student, community, and state.

RECOMMENDATION

Make Higher Education Universal

The commission recommends that Michigan, over the next decade, forge a new compact with its residents: an expectation that all students will achieve a postsecondary degree or credential coupled with a guarantee from the state of financial support linked to the achievement of that goal. This commitment to universal higher education should strive to remove financial and other barriers to degree and credential completion and end, once and for all, the idea that postsecondary education is an option rather than a necessity. The compact will send a powerful message to Michigan's current residents and businesses and to those it hopes to attract: Michigan will set and reach the new standard of educational achievement in America.

> (Participation Work Group rec. 1, Completion Work Group rec. 1, Economic Benefits Work Group rec. 2)

RECOMMENDATION

Set High Expectations for High School Students through Rigorous Standards and Curriculum

The commission recommends that the State Board of Education develop by the 2006–2007 school year rigorous high school standards that reflect the competencies necessary for postsecondary success and readiness for the world of work. The commission further recommends that school districts require all students to take courses that will allow them to achieve these new standards and, by extension, postsecondary success. Guidance from the State Board of Education/Michigan Department of Education should be provided in the form of a new high school curricular framework to guide the teaching for all students in grades 9–12.

The commission anticipates that the subject matter required to reach the new standards can and will be delivered through a variety of contexts, teaching styles, and course selections. But the commission categorically rejects the idea that schools should offer to students a curriculum that does not prepare them for postsecondary success. Until this curricular framework is established, the commission recommends that districts adopt a curriculum (i.e., course of study) that reflects rigorous standards for all students, such as that of the Presidents Council, State Universities of Michigan, and the requirements for becoming a Michigan Scholar. Once established, the new Michigan high school standards and curricular framework should be adopted by school districts for all students.

(Preparation Work Group rec. 1)

The commission is persuaded that the competencies required for success in college and in the workplace have converged. All students today must be equipped with rigorous academic preparation and high-performance job skills. The long tradition of sorting students into "college-bound" versus "non-college-bound" tracks is no longer relevant; indeed, it is harmful to a student's future and to the state's economy. The same core competencies must define a "high-expectations" set of learning objectives for all students, whatever their background, interests, experience, or life destination.

In recent years, Michigan has focused attention on early childhood education and has put in place rigorous K-8 curriculum standards. State legislative, education, and government leadership has realized that Michigan must extend rigorous standards to the high school level and better connect high school learning to postsecondary aspiration and success.

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To support a new set of rigorous standards, a new assessment is needed to track progress in meeting standards, inform curriculum and instruction, and increase readiness as well as the aspiration to succeed in postsecondary education.

RECOMMENDATION

A New High School Assessment

The commission recommends that legislation be passed calling for a new high school assessment for use in the 2007–2008 school year to replace the high school–level MEAP. This assessment must:

- Be an accepted test for college readiness for the purposes of admission
- Increase students' aspirations to attend institutions of postsecondary education
- Measure individual student performance against the new Michigan standards
- Be useful for aligning curriculum, course sequences, and grade-level content against the standards
- Be valid as the high school assessment required under federal law (No Child Left Behind)

While it should produce a score on a recognized college entrance exam, this assessment should also measure students' competence and adherence to the full array of Michigan's new high school standards. The commission further recommends that until a new assessment is deployed, Michigan school districts adopt a high expectation for students aspiring to enroll in postsecondary education—corresponding to a composite score of 22 on the ACT program or an equivalent college entrance exam (the level of 22 being strongly correlated with successful completion of a postsecondary degree).

(Preparation Work Group rec. 1)

RECOMMENDATION Create a Culture of Entrepreneurship

- The State Board of Education must integrate entrepreneurial skills and education into Michigan's K-12 standards.
- Michigan's two- and four-year higher education institutions must create a Center of Excellence for Entrepreneurship and Innovation as a network to cultivate entrepreneurial education and activities among Michigan community colleges, universities, and business and community partners.
- Michigan's two- and four-year higher education institutions must develop and offer entrepreneurial degree or certificate programs and enhance existing degree programs with entrepreneurship skills and training.
- The Michigan Department of Labor and Economic Growth and Michigan's K-12 and higher education associations must add to current, initial efforts to create 75–100 partnerships among Michigan's community colleges, universities, and K-12 systems that offer an entrepreneurial curriculum leading to certificates and degrees.

(Economic Benefits Work Group recs. 2 and 4)

Individuals with the skills that have traditionally defined entrepreneurship—risk-taking, creativity, responsibility, and adaptability—are now making a difference throughout our society, whether in their own ventures or working for another employer. More Michigan residents must use these skills to create new businesses and benefit existing firms. Michigan must rekindle a culture of entrepreneurship, starting with the education of all the state's young people and extending to how Michigan thinks about economic development and job-training activities.

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CLEAR THE PATH

As Michigan creates a high-expectations environment for all high school students, it also must recognize that far too many Michigan students attend high schools that do not help them find success in life and work. This problem is most acute in low-income communities, exacerbating the ethnic and regional disparities that exist in educational attainment in Michigan. To make real the belief that all students can achieve rigorous academic standards linked to postsecondary success, Michigan must give all students the opportunity to attend high schools capable of helping them reach that goal.

No effort to create a high-expectations learning environment in Michigan's schools can fail to recognize the critical role that teachers and administrators play in achieving these goals. Policymakers can create new standards on paper, but it is only educators who make them real in the lives of Michigan children. We must give educators the tools and support they will need

to achieve the commission's ambitious goals.

RECOMMENDATION

Implement New Strategies for High School Success

Before the decade is over, Michigan's government, business, education, and civic leadership must put in place a network of newly fashioned secondary schools and learning environments. This effort must be on a scale sufficient to effectively serve every school community where students are dropping out in large numbers or are not achieving Michigan's high expectations for learning. Refashioned high school environments must be formed around research-based models that engage and motivate students. Proven models include small high schools, blended high school and postsecondary institutions, and career and other themed and contextualized learning environments.

(Preparation Work Group rec. 3)

RECOMMENDATION

Equip Educators and Administrators to Support the High-Expectations High School Path

Michigan's school districts must make the creation of the high-expectations learning environment the central focus of professional development activities at the secondary school level. Intermediate school districts (ISDs) and two- and four-year higher education institutions—in partnership with education stakeholders from the business and foundation community—must develop new strategies and new resources for professional development that will allow teachers to help all students meet the new rigorous standards.

(Preparation Work Group rec. 2)

RECOMMENDATION

Create Community Compacts for Educational Attainment

Michigan local government leaders (from mayors to county commissioners) must join with business, labor, and education leaders to organize "community compacts" that increase local postsecondary participation rates by 5 percent each year for the next ten years. Each community should establish baselines for postsecondary participation and set targets for annual improvement, focusing efforts on students who are unlikely to attend college. As part of these local compacts, public and private universities, colleges. community colleges, and postsecondary training institutions should create partnerships with local school districts and high schools with low rates of students going on to college.

(Participation Work Group rec. 3)

Michigan's communities are currently engaged in extensive and intensive economic development efforts. Whether at the municipal or county level, there is almost universal recognition that communities must take their economic destinies in their own hands. Business decision makers routinely cite the availability of a skilled workforce as the chief determinant of investment decisions, and communities whose residents have higher levels of education also have higher levels of economic growth. Yet, few Michigan communities have focused on this critical link between increased education attainment and economic development goals. To thrive economically, communities across Michigan must see the issue of increasing educational attainment as a responsibility that all stakeholders must share.

RECOMMENDATION Improve Institutional Completion Measures

The leadership bodies of Michigan's two- and four-year higher education institutions must ensure that each public and private higher education institution sets its own success goals and benchmarks for student progress and degree completion that emphasize timely progression to the degree. Such goals and measures should be based on each school's unique mission and population, but with attention to the success among important subgroups within the student body (e.g., minorities and women). Goals, measures, and results are to be reported annually, beginning with the 2005–2006 academic year.

While more Michigan residents need to participate in higher education, Michigan will not achieve its economic development goals unless it helps a far greater share of its higher education students complete degrees in a timely manner. Michigan's state universities have themselves recognized the critical nature of this goal and have challenged themselves to increase completion rates. There are a number of important factors within each learning institution's control that can improve Michigan's degree completion rates, including guidance counseling, outreach, and support services. All these services are particularly important to historically underrepresented populations. As part of a compact of shared accountability, each public and private two- and four-year higher education institution should shine a light on its own work to increase enrolled students' completion rates and should hold itself accountable for improving its completion rates.

(Completion Work Group rec. 2)

While most Michigan residents live within commuting distance of two- and four-year higher education institutions, proximity remains a serious barrier to educational attainment. This problem is most acute in Michigan's nonmetropolitan counties, which have long had low higher education participation rates. Michigan's economic success requires that in every region of the state there is easy access to the full range of degree-granting programs, including baccalaureate degrees in a variety of highdemand fields. Michigan's higher education institutions, both public and private, are moving to offer convenient access to a full range of higher education programming through extension programs, university centers, partnerships between community colleges and four-year institutions, and a host of virtual and remote learning opportunities. The expansion of these efforts can ensure that all Michigan residents have the geographic access and opportunity to gain advanced degrees that are relevant for economic opportunity. We also recognize that many of Michigan's two-year institutions are prepared to offer applied baccalaureate degrees in selected areas that correspond with regional economic needs.

RECOMMENDATION Expand Access to Baccalaureate Institutions and Degrees

- Michigan's higher education institutions must examine the availability and geographic coverage of higher education services and put in place the necessary partnerships to ensure that residents in all parts of the state have access to twoand four-year baccalaureate programs.
- Universities that currently grant applied baccalaureate degrees must forge new partnerships with community colleges to expand the availability of this credential. In addition, the Michigan legislature must pass enabling legislation during the 2005— 2006 legislative session that defines the criteria and process by which Michigan community colleges may offer applied baccalaureate degrees in response to unmet economic, employer, or community needs in their service regions where partnership arrangements have failed to meet these needs.

(Completion Work Group rec. 4)

RECOMMENDATION

Expand Opportunities for "Early College" Achievement

The legislature must replace the current dual enrollment funding system during the 2005–2006 legislative session with a system that provides incentives for collaboration between secondary and postsecondary institutions.

Michigan's school districts must expand opportunities for dual enrollment and for taking college credit courses so that 50 percent of the state's high school students are earning college credit by 2015. All school districts, even those with the most academically challenged schools, should achieve a minimum enrollment of 10 percent.

(Participation Work Group rec. 2)

As Michigan's high schools prepare all students for postsecondary education and training, an increasing number of our secondary school students will have the ability to complete collegelevel work during their high school years. Michigan must seize this opportunity for learning by expanding opportunities for high school students to earn college credit. This will allow students to achieve their education goals more quickly, reduce the cost of postsecondary degrees, and give many students a better understanding of their own potential to succeed at college-level work. Rather than hold its students back, Michigan must be willing to accelerate the pace of learning to realize education gains that will translate into a stronger economy and better jobs.

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For a growing number of residents, the path to higher education and postsecondary credentials is not a straight line. Many start at a two-year school and either transfer to a four-year school or resume postsecondary education after some time away. All Michigan residents should be able to obtain postsecondary credentials of value, regardless of whether they start and finish at a single institution, move between institutions, or re-enroll after time away for work or family obligations.

A major roadblock to degree completion in Michigan today is the difficulty students have transferring credits as they navigate between institutions. Many lose credit that they have worked hard to obtain, while others are forced to repeat courses to earn degrees in their chosen field. The state and higher education institutions must make this journey as efficient and user-friendly as possible if more people are to earn postsecondary credentials in a reasonable length of time and at a reasonable cost.

Today, many students transfer from Michigan's community colleges to four-year institutions before earning an associate's degree, and some of these students have completed more than half of the requirements for an associate's degree or other credential from the community college before transferring to a four-year baccalaureate program. When such students subsequently complete at a four-year degree-granting institution the necessary coursework for the associate's degree from a community college, they are entitled to a valuable credential. This credential—an associate's degree—is one that the student could use in the labor market while pursuing a four-year degree. In addition, the absence of this degree shortchanges employers who cannot recognize what may be a valuable potential employee because the person does not have a recognized credential.

RECOMMENDATION Improve Transfer Process and Award Dual Degrees

Michigan's two- and four-year higher education institutions must create by 2006 a statewide "Transfer Wizard": a website containing course articulation and transfer information for all Michigan institutions, clearly identifying what courses are accepted, and where.

Michigan higher education institutions must establish by 2006 the Michigan Milestone Compact. This compact would grant to a student transferring from a community college to a four-year degreegranting institution an associate's degree or other credential/degree by the community college partner following completion of necessary course work conforming to agreed-upon learning outcomes.

(Completion Work Group rec. 3)

RECOMMENDATION

Increase the Number of Postbaccalaureate Professionals

- Michigan businesses and foundations must create a significant endowment to fund scholarships for Michigan students to pursue postbaccalaureate degrees at our higher education institutions, with priority for key disciplines (e.g., science, engineering).
- Michigan's higher education and business community must partner to greatly expand internship opportunities for undergraduate and graduate students and faculty. Such efforts should use public or privately funded stipends to create incentives for students working in emerging fields.
- Michigan's universities must expand dual enrollment programs to allow undergraduate students to move efficiently and seamlessly to postbaccalaureate degree achievement.

(Economic Benefits Work Group rec. 6)

While Michigan wants far greater numbers of its residents to earn associate's and bachelor's degrees, our goals for educational attainment must reach higher. Across the nation, talent centers that bring together large numbers of advanced degree holders are enjoying the highest rates of economic growth. Whether they are in university labs and classrooms or corporate research and development centers, these are the people who are advancing the frontiers of knowledge and fueling explosive economic growth. To ensure Michigan's economic future, we need ever-increasing numbers of Michigan residents to reach the highest pinnacles of education. At the same time, Michigan must attract the best and the brightest from around the country and the world to our campuses and workplaces.

RECOMMENDATION

Target Adults Seeking to Complete Postsecondary Credentials

Michigan's postsecondary education institutions must lead community-based outreach campaigns that over the next ten years will recruit half of the 1.5 million adults with limited postsecondary education to return and complete their degree. These efforts should include an "amnesty" on stale or expired credits, recognition of work-based learning experiences, and better utilization of the tremendous education benefit that Michigan's businesses and labor unions have created for employees.

(Participation Work Group rec. 4, Completion Work Group rec. 6) While Michigan has a slowly growing traditional school-age population, a relatively large proportion of adults in Michigan have some postsecondary education but have not attained a postsecondary degree or other credential of value. These adult residents can be tremendous assets to economic growth if Michigan can reengage them in postsecondary education and see them earn credentials.

Helping these adults complete their credential means reaching out to adult learners and workers, communicating the importance of postsecondary education, and making it easier for working adults to access the financial aid, support services, and diverse learning delivery techniques that are available.

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Whether it is the increased number of young people who leave high school ready to succeed in higher education or the tens of thousands of older workers who return to the college campus, the recommendations of the commission have implications for the capacity and organization of Michigan's higher education system. While the commission believes Michigan's existing higher education capacity can be used in new and more effective ways to begin achieving its ambitious goals, it also believes that the longer-term, capacity-related implications of these recommendations need to be well understood.

RECOMMENDATION

Conduct an Analysis of Higher Education Capacity Needs

During the next legislative session, the higher education community must conduct an analysis of the emerging issues and special problems related to higher education human resource and physical infrastructure capacity.

(Participation Work Group rec. 5)

WIN THE RACE

To win in today's economy, Michigan needs to better leverage one of its strongest assets—its powerful network of higher education institutions—to nurture the industries of the future and to translate these new industries into jobs for Michigan residents. This does not mean abandoning manufacturing, but rather building on traditional strengths in automobile design and manufacturing and other key industries. Michigan can apply its research and development talent to assist its existing industries to adapt and compete through new innovations, products, and technologies.

RECOMMENDATION

Create an Emerging Economy Initiative

- The state and federal governments, universities, and private industry must boldly invest in Michigan's Technology Tri-Corridor to support the research, development, and commercialization of emerging technologies. This investment should promote Center of Excellence partnerships in the Tri-Corridor; organize and fund public/private partnerships among higher education institutions, private partners, and venture capital funds in emerging economic sectors; and focus peer-reviewed and applied research on projects with commercial potential.
- Michigan must create a Twenty-first Century Research Fund that will give state, institutional, and private sector researchers improved access to matching funds for major research activities that align with the commission's commercialization strategies.

(Economic Benefits Work Group rec. 1)

RECOMMENDATION

Commercialize More Research

- Michigan's higher education institutions must make commercialization of research an institutional priority and align internal practices and performance measures to support it where appropriate.
- Michigan's colleges and universities should establish their own venture capital funds within their schools, colleges, institutes, and similar divisions to create locally managed pre-seed funds that leverage the existing Smart Zones and business accelerators.
- Michigan's universities and community colleges must form networks to accelerate applied research and business formation that leverage existing Smart Zones and business accelerators.

(Economic Benefits Work Group rec. 3)

The state must ensure that the powerful research being conducted at Michigan's research-intensive universities—and in conjunction with businesses—is translated more effectively into new companies, jobs, and an increasingly entrepreneurial culture.

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In every community there are current job and skill needs among existing employers that need to be matched with a highly trained workforce. For example, a recent study of Michigan's health care industry showed that up to 100,000 new, technically trained health care workers are needed to serve this sector. Michigan residents need to have tools and information available to help them better understand the jobs that exist today and which education programs prepare them well for these jobs. Michigan's public and private postsecondary institutions also need to consider their contributions to preparing Michigan residents in the disciplines and with the skills in demand in their region.

RECOMMENDATION

Align Postsecondary Education with Economic Needs and Opportunities

- The Michigan Department of Labor and Economic Growth must develop and make available by 2006 a more powerful and user-friendly system for linking job and occupational data with job/career information and guidance at the community level.
- The Michigan Department of Labor and Economic Growth must organize, in conjunction with the postsecondary education community, a process for communicating and reporting annually the match between current and emerging job and occupation needs and the efforts and outcomes of postsecondary education institutions to meet those needs.

(Economic Benefits Work Group rec. 6)

In an era in which quality of place is a critical factor in economic development, higher education institutions are a primary driver of community development and cultivating quality of place. Colleges and universities contribute to the physical and aesthetic appeal of a community; the diversity of residents; and the arts, culture, and entertainment milieu. Higher education institutions have both tremendous opportunity and civic responsibility to participate strongly in community development and revitalization.

RECOMMENDATION

Expand the Role of Higher Education Institutions in Community Development

All higher education institutions must aggressively partner with their communities and "cool city" commissions to develop and implement strategies and programs that leverage their unique role. Prime among these are participation in local planning and development policy shaping; partnering in mixed-use developments; enhancing art, culture, and entertainment offerings; and using the physical and land assets of these institutions creatively as locales for private sector development, incubation of firms, and housing.

(Economic Benefits Work Group rec. 5)

RECOMMENDATION Develop a Lifelong Education Tracking System

The Michigan Department of Information Technology must develop by 2007 an interagency data-sharing arrangement, in coordination with Michigan's K-12 and higher education institutions, that creates a functioning lifelong education tracking system with information from multiple data sources, including CEPI, MDLEG, and higher education.

(Completion Work Group rec. 5)

As Michigan embarks on this journey to postsecondary educational attainment and greater economic growth, its taxpayers and residents need to know what is working and what is not, how far the state has come, and how far the state has to go in its quest to become the nation's best-educated population. As Michigan residents move through an education process that begins long before kindergarten and continues through graduate degrees and employment, the state must be able to chart individuals' progress while respecting their right to privacy.

Currently, Michigan has disconnected data systems tracking K-12 students, higher education students, and adult job training and re-employment programs. The state cannot answer simple yet critical questions such as: What specific degrees and credentials do Michigan residents have? Where do high school students go and what do they do after graduation? What do graduates of the state's various colleges and universities do next? Where are they working? Answers to these and more detailed questions about the outcomes for particular schools and programs are essential to guide smart policy and investments in an education system that strives for lifelong learning.

CONCLUSION

The early experimentation of innovators such as Henry Ford, Ransom E. Olds, and the Dodge brothers catalyzed a hundred years of industrial growth in Michigan in the early twentieth century. Today, in the first decade of a new century, Michigan must transform itself once again to be a leader in an era where knowledge is the key ingredient in economic success.

If Michigan's residents, education systems, and governments can work together to increase the share of the state's population with credentials of value, Michigan will be a vanguard state for economic vitality and quality of life. The commission believes the recommendations offered in this report are a roadmap to fundamental change in Michigan. Some recommendations will be implemented soon, while others will require years of sustained effort to achieve. Some are as modest in scope as others are sweeping. Some will guide the strategic investment of new resources while others will deploy existing resources more wisely.

Taken as a whole, these recommendations represent a dramatic break from the policies of the past, policies that cannot guide Michigan to the future we seek. When these recommendations are implemented, Michigan will have a K-12 education system that prepares all students for success in college and work, a postsecondary education system that moves unprecedented numbers of residents to new levels of educational attainment, and the research and development infrastructure a highly educated workforce needs to reach new levels of economic growth and opportunity.

The commission's sense of urgency is undiminished by Michigan's current fiscal crisis. While recognizing that resource limitations will affect the speed with which these recommendations will be implemented, the commission believes it is critical to set this course today and move steadily forward to the future that we want for this state, increasing the pace as more resources become available. Furthermore, the commission believes that Michigan's long-term economic and fiscal health can only be secured if it makes the development of a highly educated population an overarching priority.

There is one word the commission has used in each of the recommendations contained in this report—the word "must." This word reflects the belief that the changes the commission has called for are essential if Michigan is to succeed and thrive in a changing economy. The sense of imperative that has shaped this commission's work does not come from the mandate of law. Instead, it comes from the sheer magnitude of the challenge Michigan faces and a mutual belief that all segments of our society will mobilize to meet it.

In that spirit, the commission is pleased to present this report to Governor Granholm and the people of Michigan.